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Datasheet for the decision of 10 November 2020

Case Number: T 2265/15 - 3.2.02

Application Number: 10184018.9

Publication Number: 2305171

IPC: A61D19/00, C12N5/00, G01N15/14

Language of the proceedings: EN

Title of invention:
Apparatus and methods for providing sex-sorted animal sperm

Applicant:
Inguran, LLC

Headword:

Relevant legal provisions:
EPC Art. 56

Keyword:
Inventive step - (yes)

Decisions cited:

Catchword:

Europäisches Patentamt
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Beschwerdekammern

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Case Number: T 2265/15 - 3.2.02

D E C I S I O N
of Technical Board of Appeal 3.2.02
of 10 November 2020

Appellant: (Applicant)	Inguran, LLC 22575 State Highway 6 South Navasota, TX 77868 (US)
Representative:	Jacob, Reuben Ellis Maucher Jenkins 26 Caxton Street London SW1H 0RJ (GB)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 15 July 2015 refusing European patent application No. 10184018.9 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman	M. Alvazzi Delfrate
Members:	S. Böttcher
	L. Bühler

Summary of Facts and Submissions

I. The applicant lodged an appeal against the decision of the Examining Division to refuse European patent application No. 10184018.9 because the subject-matter of claim 1 of the main request lacked an inventive step and claim 1 of auxiliary request 1 infringed the requirements of Articles 123(2), 76(1) and 56 EPC.

II. The present case is related to the cases underlying decisions T 2200/15 and T 2266/15. The application in suit has been filed as a divisional application of the earlier applications EP 09014407.2 and EP 04749513.0.

III. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the main request (corresponding to the main request underlying the appealed decision) or on the basis of the auxiliary request both filed with the statement of grounds of appeal.

IV. With a communication dated 2 April 2020, the appellant was informed that the Board considered the subject-matter of claim 1 to involve an inventive step. Furthermore, the Board raised an objection under Article 123(2) EPC against claim 1 of the main request and the auxiliary request.

V. By letter of 26 May 2020, the appellant filed an amended main request to meet the objection raised by the Board and announced that they conditionally withdrew their request for oral proceedings (which had been submitted with the statement of grounds of appeal) subject to the order of the grant of a patent based on

the main request.

VI. With a further communication under Rule 100(2) EPC dated 25 September 2020, the appellant was informed that the Board intended to remit the case to the Examining Division for examination of the compliance with Article 53(a) EPC.

VII. With the submission dated 5 October 2020 the appellant filed a revised main request and requested grant of a patent on the basis of the revised main request.

VIII. Claim 1 of the main request reads as follows:

"A method of handling non-human semen having cells therein, the method including:

providing a supply of semen obtained from a non-human male animal;
using a programmable machine to conduct a plurality of integrated flow cytometry operations, the operations including
a) receiving the supply of semen into the machine;
b) forming multiple streams containing the cells; and
c) sorting at least one portion of the cells into a first population of cells having a characteristic A and a second population of cells having a characteristic B; and
distributing the first or the second population for commercial use;
wherein the step of forming multiple streams containing the cells is enabled by having multiple flow cytometry units linked to form a single integrated multi-channel flow cytometry unit, and wherein the single integrated multi-channel flow cytometry unit utilizes a common supply of cells for the multiple streams; and a common

system for delivering carrier fluid, the common carrier fluid delivery system being capable of supplying one or more of the units at a first flow rate and one or more of the units at a second flow rate; a common operations control input; and a common processor for receiving and processing information from the multiple flow cytometry units, wherein the operational parameters of each of the multiple flow cytometry units can be set independently of the other flow cytometry units."

IX. The following document is referred to in this decision:

D1: Seidel G. E. Jr et al, "Current status of sexing mammalian spermatozoa"; Reproduction (2002); Volume 124, pages 733 to 743

X. The appellant's arguments relevant for the present decision are essentially those on which the following reasons for the decision are based.

Reasons for the Decision

1. Subject-matter of the application

Claim 1 of the main request relates to a method of handling non-human sperm cells, the method including sorting the sperm cells into a first population having a characteristic A and a second population having a characteristic B (e.g. X or Y chromosome) using a flow cytometry unit.

Before the sperm cells are fed to the flow cytometry unit, they can be stained by using a DNA-selective dye such that, for instance, male sperm cells have a

different colour than the female sperm cells. The difference in colour is then used to analyze the cells and to sort them in the flow cytometry unit.

According to claim 1, a single integrated multi-channel flow cytometry unit is used in which multiple flow cytometry units are linked. The integrated multi-channel flow cytometry unit has a common supply of cells and a common carrier fluid delivery system, a common operations control input and a common processor. The common carrier fluid delivery system is capable of supplying one or more of the units with a first flow rate and other units with a second flow rate. The operational parameters of each of the flow cytometry units can be set independently of the other flow cytometry units.

2. Main request - Articles 123(2) and 76(1) EPC

The Board sees the features of claim 1 of the main request as originally disclosed (see in particular paragraphs [0430], [0345], [0346], [0374] and [0375] of the application as originally filed and the corresponding passages of the earlier applications EP 09014407.2 and EP 04749513.0). In particular, since claim 1 now specifies that the fluid delivered by the common system is a carrier fluid as disclosed in paragraph [0375] of the original application, the objection raised by the Board in the communication of 2 April 2020 has been met. The introduction of the disclaimer "non-human" is allowable in view of G1/03 (Reasons, 2.4.1). Therefore, claim 1 of the main request satisfies the requirements of Articles 123(2) and 76(1) EPC.

3. Main request - inventive step

D1, which can be considered the closest prior art (see also appealed decision, point 2.1.1.1 of the Reasons), discloses a method of handling semen obtained from a male animal comprising the following steps:

receiving a supply of semen into a flow cytometer,

sorting at least a portion of the cells into a first population of cells having a characeristic A (bearing an X-chromosome) and a second population of cells having a characteristic B (bearing a Y-chromosome) (page 737, left hand column, last paragraph); and

distributing the first or the second population for commercial use (page 742, right hand column, second paragraph).

D1 does not disclose to form multiple streams containing the cells and to use a single integrated multi-channel flow cytometry unit formed by linking multiple flow cytometry units. Evidently, D1 neither discloses the features concerning the single integrated multi-channel flow cytometry unit mentioned in the last paragraph of claim 1.

By the incorporation of multiple flow cytometry units into one integrated unit while sharing common elements the system may be run more efficiently and profitably. The multiple flow cytometry units are adapted to conduct flow cytometry operations in parallel, thereby providing for a higher throughput. Furthermore, the capability to supply fluid to the units at different flow rates and to set operational parameters of each unit independently of the other units provides for the

technical effect of being able to manage the throughput of the units. Thus, the problem to be solved may be regarded as to provide for a more efficient sorting process with a higher versatility.

Neither this problem nor its solution as defined in claim 1 has been addressed in the available prior art. Hence, it would not be obvious for the person skilled in the art to integrate multiple flow cytometry units into a multi-channel unit as defined in claim 1.

The Examining Division considered that the person skilled in the art did not have to exercise inventive skills in order to come up with the integration of several flow cytometry units into one system and that the selection of common components as specified in claim 1 represented just one of several straightforward possibilities which the person skilled in the art would select.

The Board does not concur with this view. The integrated system used in the claimed method decreases the time required to sort the cells since multiple flow cytometry operations may be conducted in parallel (page 136, line 35 to page 137, line 17). At the same time, the use of common elements, e.g. the common carrier fluid delivery system, allows the system to be run more efficiently and to achieve more consistent results among channels. These combined benefits cannot be considered obvious for the person skilled in the art without using ex post facto analysis.

The Examining Division further held that it was obvious to provide a common carrier fluid delivery system that is capable of supplying fluid to different units at different flow rates and to set operational parameters

of each unit independently of the other units.

The Board cannot agree with this position. The possibility to vary the flow rate and other operational parameters of each unit independently from the other units clearly enhances the versatility of the system and allows for instance selected units to be operated in the event not all of the units are needed (page 134, lines 20-36). It cannot be regarded as straightforward to implement these features in the system of the prior art.

Hence, the subject-matter of claim 1 involves an inventive step.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the examining division with the order to grant a patent on the basis of claims 1 to 9 according to the main request filed with the submission dated 5 October 2020 and a description to be adapted.

The Registrar: The Chairman:

D. Hampe M. Alvazzi Delfrate

Decision electronically authenticated